

REMARKS/ARGUMENTS

I. Concerning the Amendments

Claim 21 is cancelled without prejudice to the filing of a continuing application containing a claim directed to all or part of its subject matter. The amendment to Claim 36 is supported in the specification at page 20, line 26, and is presented to clarify the language of Claim 36.

II. Concerning the Provisional Double Patenting Rejection

Applicants elect to defer treatment of this provisional issue until such time as allowable claims are identified.

III. Concerning the Rejection over Prior Art

The invention is directed to a process of producing a coated paper or paperboard, other than photographic papers, using coating compositions containing pigments that do not produce suitable coatings on blade type, bar or rod type, or reverse-roll type paper coating machines. Six independent claims are pending in the application.

Claim 1 contains the phrase "whereby a composition forming at least one layer of the free flowing curtain has, at a temperature of 25°C and at a shear rate of 500,000 s⁻¹, a high shear viscosity of at least about 50 mPa·s" and thus, generally speaking, relates to the use of a curtain having a high, high shear viscosity composition in at least one layer.

Claim 3 contains the phrase "curtain comprises at least one pigment, the morphology and structure of which is destroyed at a shear rate of less than 500,000 s⁻¹" and thus relates to the use of a curtain comprising at least one fragile pigment.

Claim 4 includes the phrase "whereby a composition forming at least one layer of the free flowing curtain has a Shear-Thickening Index, defined as the ratio of the viscosity at 30,000 s⁻¹ to the viscosity at 3,000 s⁻¹ at 25°C, of at least about 1.2" and relates to the use of a curtain having a Shear-Thickening Index of at least about 1.2.

Claim 34 includes the phrase "whereby a composition forming at least one layer of the free flowing curtain has a Shear-Blocking Behavior." Shear-Blocking Behavior is defined in the specification at the bottom of page 7.

Claim 35 includes the phrase "whereby a composition forming at least one layer of the free flowing curtain exhibits a difference between the Immobilization Solids Content and the Coating Application Solids of less than about 17" and relates to a curtain coating process wherein the curtain has at least one layer that includes a composition that is close to its Immobilization Solids Content level.

Claim 36 relates to a process for coating with large particle size pigments.

Applicants submit that the paper and paperboard coating processes of the prior art did not employ such coating compositions in view of the difficulty of producing acceptable coatings with such compositions.

A. Claims 1-18, 21-23, 26, 29-32 and 34-37 stand rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as being obvious over Hirabayashi et al. (hereinafter Hirabayashi 031) "as evidenced by Applicants' admission."

The invention of the Hirabayashi '031 reference is directed to a post-treatment step, and is not concerned with how the "normal" coating process is conducted, since the normal coating process is merely a precursor to the process of Hirabayashi '031. The Hirabayashi '031 reference contains a boilerplate paragraph referring to known techniques for applying aqueous pigmented coating compositions to base paper. However, there is no appreciation of the subject matter of Applicants' claims in Hirabayashi '031.

The rejected claims are not anticipated by Hirabayashi 031, as the '031 reference does not disclose each and every element of those claims. Regarding Claim 1, Hirabayashi '031, alone or in combination with the alleged admission, does not disclose a curtain coating process whereby a composition forming at least one layer of the free flowing curtain has, at a temperature of 25°C and at a shear rate of $500,000 \text{ s}^{-1}$, a high shear viscosity of at least about 50 mPa·s. Similarly, Hirabayashi '031, alone or in combination with the alleged admission, does not disclose the coating processes of any of Claims 3 (at least one pigment, the morphology and structure of which is destroyed at a shear rate of less than $500,000 \text{ s}^{-1}$), 4 (at least one layer of the free flowing curtain has a Shear-Thickening Index of at least 1.2), 34 (at least one layer of

the free flowing curtain has a Shear-Blocking Behavior), 35 (at least one layer of the free flowing curtain exhibits a difference between the Immobilization Solids Content and the Coating Application Solids of less than about 17), or 36 (at least one layer of the free flowing curtain has a median particle size of at least about 2 microns).

At page 5 of the Office Action, Examiner states that Applicants admit "that coating slips having high solid [sic] content usually have the claimed viscosity at the claimed conditions." Examiner characterizes the cited passage too broadly. Applicants did not state that all coating slips having high solids content usually have a viscosity as Claimed in Claim 1. Such a statement is not even supported by Applicants' data. As shown in Applicants' Examples 1 and 2, the coating composition used for Slot 1 has a solids of 60.1% and a viscosity at $500,000\text{s}^{-1}$ of only 13.6, which is far less than the pertinent element of Claim 1 (at least about 50). When taken in the context of the Background of the Invention section of the specification, the alleged admission merely indicates that certain pigments can not be used to prepare suitable coatings by using rod or bar type, blade type or reverse-roll (film) type coating methods. The drawbacks of such methods are explained in the specification at page 1, line 20, through page 3, line 12. Accordingly, the alleged admission does not establish that Hirabayashi '031 discloses coating colors having the high shear viscosity of Applicants' Claim 1.

In view of the fact that Hirabayashi '031 does not explicitly disclose each and every element of the independent claims, Examiner asserts that the subject matter of the rejected claims is inherently present in the Hirabayashi '031 reference. The data in the enclosed Declaration of Michael Devon shows that the claimed subject matter is not inherent in Hirabayashi '031. For example, the data in the enclosed Declaration of Michael Devon establishes that the coating composition of Embodiment 1, which has a viscosity of $8.5\text{ mPa}\cdot\text{s}$ at $500,000\text{s}^{-1}$, of Hirabayashi '031 does not meet the viscosity limitation, at least about $50\text{ mPa}\cdot\text{s}$ at $500,000\text{s}^{-1}$, of Applicants' Claim 1. Similarly, the Hirabayashi '031 composition has a Shear-Thickening Index of 0.577 and does not meet the Shear-Thickening Index requirements of Claim 4 (at least about 1.2). The Declaration of Dr. Devon also establishes that composition does not exhibit Shear-Blocking Behavior (Claim 34), does not meet the requirements of Claim 35, and does

not use a pigment having an average particle size of at least about 2 microns (Claim 36). For these reasons, the Declaration of Dr. Devon establishes that the rejected claims are not inherently anticipated by Hirabayashi '031. Accordingly, reconsideration of the rejection under section 102(b) is respectfully requested for the forgoing reasons.

In making a rejection based on §103, the Patent Office has the initial burden of supplying the factual basis for its rejection. In re Warner and Warner, 154 USPQ 173 (CCPA 1967), cert. denied, 389 US 1057 (1968). The Office must show three elements to establish a prima facie case of obviousness: (1) some suggestion or motivation to modify a reference or to combine reference teachings; (2) a reasonable expectation of success with the modification; and (3) prior art (a single reference or combined references) that teaches all of the claim limitations. MPEP §2143.

As established hereinabove, the Hirabayashi '031 reference does not disclose all elements of the rejected claims. Thus, the rejection does not meet requirement (3) of the obviousness test. Therefore, no prima facie case of obviousness has been established. Accordingly, reconsideration of the rejection over Hirabayashi '031 based on §103 is respectfully requested.

B. Claims 1-18, 21-23, 26, 29-32 and 34-37 stand rejected under 35 USC 102(e) as anticipated by or, in the alternative, under 35 USC 103(a) as being obvious over Hirabayashi et al. (hereinafter Hirabayashi 413).

Hirabayashi '413 is directed to making a coated paper wherein the manufacturing process includes a pretreating step wherein an aqueous solution of polyvinyl alcohol is applied and dried to form a base paper. The purpose of the polyvinyl alcohol precoat is to increase the air resistance of the base paper. The Hirabayashi '413 reference teaches that the resulting pretreated base paper can be subsequently coated using conventional coating techniques.

In view of the fact that Hirabayashi '413 contains the same or essentially the same boilerplate language regarding coating processes and pigments as the boilerplate language of the Hirabayashi '031 reference, Applicants incorporate by reference the preceding arguments responsive to the rejection based on Hirabayashi '031, and

request reconsideration of the patentability of the rejected claims based on those arguments.

C. Claims 19, 24-25, 27-28 and 33 stand rejected under 35 USC 103(a) as being obvious over Hirabayashi 413 in view of Mitani et al. (hereinafter Mitani).

Applicants elect to have the patentability of Claims 19, 24-25, 27-28 and 33 stand or fall according to the patentability of the independent claims from which they depend.

D. Claim 21 stands rejected under 35 USC 102(e) as being anticipated by or, in the alternative, under 35 USC 103(a) as being obvious over Wittosch et al. (hereinafter Wittosch). Claim 21 is canceled herein. Accordingly, this rejection is moot.

E. Claims 1-37 stand rejected under 35 USC 103(a) as being obvious over Yokota in view of Kustermann, and further optionally in view of Mitani.

As mentioned above, in making a rejection based on §103, the Patent Office has the initial burden of supplying the factual basis for its rejection. In re Warner and Warner, 154 USPQ 173 (CCPA 1967), cert. denied, 389 US 1057 (1968). The Office must show three elements to establish a prima facie case of obviousness: (1) some suggestion or motivation to modify a reference or to combine reference teachings; (2) a reasonable expectation of success with the modification; and (3) prior art (a single reference or combined references) that teaches all of the claim limitations. MPEP §2143.

The rejection is based on a combination of references, none of which disclose the subject matter of Applicants' claims, with or without the alleged admission from Applicants' specification. Examiner has not identified any passage of any reference that discloses the subject matter of Applicants' claims. Applicants submit that neither element (3) nor element (1) of the above-cited obviousness standard is supported by the references.

To the extent that the rejection relies on a theory of inherency, it is well-established law that obviousness can not be based on inherency. "If Appellant's catalyst is inherent in the Japanese Patent, it has not been established by the record

here and obviousness cannot be predicated on that which is unknown." (Emphasis supplied.) In re Grasselli, 218, USPQ 769, 776 (Fed. Cir. 1983). The decision in Grasselli is directly applicable to the present situation, as the references are simply silent regarding the subject matter of the claims. In view of the fact that the references do not contain any facts which would support a prima facie case of obviousness, it is respectfully submitted that no prima facie case of obviousness has been made.

The rejection apparently is based upon hindsight, as the references are silent with respect to the limitations of Applicants' claims. Reconsideration of the rejection is respectfully requested in view of the foregoing arguments.

IV. Conclusion

For the foregoing reasons, reconsideration of the claims and passing of the application to allowance are solicited.

Respectfully submitted,



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